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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,359	12/30/2003	Ioan Sauciuc	42P18283	1189

8791 7590 01/05/2007
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EXAMINER

WEINSTEIN, LEONARD J

ART UNIT	PAPER NUMBER
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3746

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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Office Action Summary	Application No.	Applicant(s)	
	10/749,359	SAUCIUC ET AL.	
	Examiner	Art Unit	
	Leonard J. Weinstein	3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>04/14/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 1-12 are objected to because of the following informalities: It is believed that the following limitations are in error:

In claim 1, "actuator" for --pump --; "encourage" for – pumping --;

In claim 6, "fluid" for – liquid--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-14, 16-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Mount 4,381,650. Mount '650 teaches all the limitations as substantially claimed for an apparatus or system including: an actuator 11, a sensor coupled to the actuator 12 and 14, to detect a physical state of a substance within the actuator (col. 3 ll. 58-67), and a thermoelectric module 4 coupled to the actuator 11, to encourage the substance within the actuator to change physical state (col. 5 ll. 20-35;); a heat source 16 coupled to the actuator, the heat source to be cooled by the operation of the actuator; a start up circuit 10 coupled, via 4, to the actuator 11, sensor, 12 and 14, and module 4, and an automatic feedback system (col. 5 ll. 20-25); an actuator 11 being one of a fluid pump 17 and a compressor 1; a sensor that is a thermistor (col. 3 ll. 62-65); a thermoelectric module 4 having one of a thermoelectric cooler (col. 4 ll. 17-21) and a heater 26; a compressor 1 oriented at a location independent of the gravitationally high

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point, figure 1; and a cold plate 2 coupled to the heat source 16, via 3 and 9; and : a heat exchanger, 8 and 5, coupled to the actuator 11, via 6 and 7. Further Mount teaches a method as substantially claimed including the steps of: determining a presence of a threshold amount of one of a fluid and a vapor in an actuator (col. 3 ll. 58-68); condensing vapor and evaporating liquid present in the actuator (col. 4 ll. 43-45 and 48-53); the step of checking a sensor coupled to the actuator (col. 5 ll. 20-24) for determination; the step of evaporating includes heating liquid to a boiling point (col. 4 ll. 43-45), where heat is generated by a heater 26 coupled to the actuator, 11 via 4; the step of condensing includes cooling vapor within a liquid pump to a condensation point, and vapor heat is absorbed by a thermoelectric module coupled to the actuator (col. 4 ll. 6-10); repeating the steps of claim 6, as discussed above, until there is no longer a threshold amount of one of the fluid and the vapor in the actuator (col. 5 ll. 55-60); the step of applying power to the actuator (col. 5 ll. 36-41); and the step of applying power to a heat source 26 coupled to the actuator (col. 4 ll. 40-48).

4. Claims 13-15 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Lagedamount et al. 6,402,479. Lagedamount teaches all the limitations as substantially claimed for a system including: an actuator 18, a sensor 10 coupled to the actuator 18, to detect a physical state of a substance within the actuator (col. 3 ll. 59-62), a thermoelectric module 5 coupled to the actuator, encourage the substance within the actuator to change physical state (col. 3 ll. 63-67 and col. 4 ll. 1-3), and a heat source 4 coupled to the actuator 18, the to be cooled by the operation of the actuator; the actuator 18 one of a pump, 6 of 18; and the pump is oriented at a location independent of the gravitationally low point (col. 4 ll. 39-55) and an integrated circuit package 5 containing a die 9 in which the actuator 18, sensor 10, thermoelectric module 5 and heat source 4 are built.

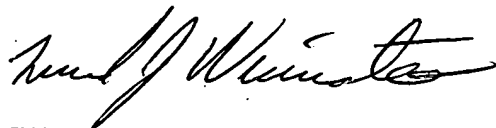
Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure cited on form 892 herewith.

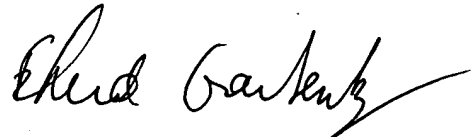
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard J. Weinstein whose telephone number is 571-272-9961. The examiner can normally be reached on Monday - Thursday 7:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ehud Gartenberg can be reached on 571-272-4828. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



LJW



EHUD GARTENBERG
SUPERVISORY PATENT EXAMINER

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